WASHINGTON STATE DEPARTMENT OF ECOLOGY
P.O. BOX 47600
OLYMPIA, WASHINGTON 98504-7600

IN THE MATTER OF:	**]**	**PSD-02-04**
BP Isomerization Project	**]**	**FINAL APPROVAL OF THE**
BP, Cherry Point Refinery	**]**	**PREVENTION OF SIGNIFICANT**
4519 Grandview Road	**]**	**DETERIORATION**
Blaine, Washington 98230	**]**	

Pursuant to the Washington State Department of Ecology (Ecology) general regulations for air pollution sources Chapter 173-400 Washington Administrative Code (WAC) and the federal Prevention of Significant Deterioration (PSD) regulations 40 Code of Federal Regulations (CFR) 52.21, and based upon the Notice of Construction (NOC) application submitted by British Petroleum (BP) on July 29, 2002, the additional information submitted on September 6, 2002, December 17, 2002, February 5, 2003, and the technical analysis performed by Ecology, Ecology now finds the following:

FINDINGS

1. BP has applied to construct and operate a Clean Gasoline Project at its Cherry Point Refinery in Whatcom County, Washington.

2. The project will process light naphtha feedstocks to produce a gasoline blend component that has essentially no benzene, olefins, or sulfur, and is higher in octane than its feed. The project will consist of the Naphtha Dehexanizer unit, an Isom Hydrotreater (IHT) that will include a 13 Million British Thermal Unit per hour (MMBtu/hr) IHO process heater, a BenSat™ unit, a Penex™ (Isomerization) unit, connections to existing processes and changes in tank services within the refinery, and a new 363 MMBtu/hr boiler (replacement boiler #2).

3. This project is subject to New Source Performance Standard (NSPS) 40 CFR 60, Subpart Db, Standards of Performance for Industrial-Commercial–Institutional Steam Generating Units for replacement boiler #2.

4. The BP refinery is an existing major stationary source that emits more than 100 tons of a regulated pollutant per year.

5. The BP Isomerization project will be located in an area that is designated as “attainment” for the purposes of PSD permitting for all pollutants.

6. This project is subject to PSD permitting because emissions of nitrogen oxides (NO_X) and carbon monoxide (CO) have "significant" emission increases greater than 40 tons per year and 100 tons per year, respectfully.

7. Emissions of all other pollutants are subject to NOC permitting requirements and will be addressed by the Northwest Air Pollution Authority (NWAPA).

8. The project will result in an increase of NO_X emissions of up to 65 tons per year.

9. The project will result in an increase of CO emissions of up to 113 tons per year.

10. Ultra Low NO_X Burners (ULNB) plus Flue Gas Recirculation (FGR) have been determined to be BACT for the control of NO_X emissions from replacement boiler #2.

11. ULNB has been determined to be BACT for the control of NO_X emissions from the IHT process heater.

12. Good combustion practices have been determined to be BACT for the control of CO emissions from replacement boiler #2.

13. Good combustion practices have been determined to be BACT for the control of CO emissions from the IHT process heater.

14. This project is located in an area that has been designated Class II for the purposes of PSD evaluation. The distances to the nearest Class I areas are shown in Table 1:

Table 1: Distances to Nearest Class I Areas

Class I Area	Distance in Kilometers
Alpine Lakes Wilderness	156
Glacier Peak Wilderness	109
North Cascades National Park	80
Olympic National Park	113
Pasayten Wilderness	124

15. The project is located in an area that is currently designated in attainment for all national and state air quality standards.

16. The ambient impacts of the proposed increase in emissions were determined with the Environmental Protection Agency (EPA) Industrial Source Complex Short-Term Model Version 3 (ISCST3) and EPA's CALPUFF.

17. Proposed emissions from this project do not exceed the Class I and Class II Increments at the North Cascade National Park and Mt. Baker Wilderness respectfully as shown in Table 2.

Table 2: Proposed Maximum NO_2 Emissions from the BP Isomerization Project

Pollutant	Averaging period	Maximum Class II concentration ($\mu g/m_3$)	Allowable Class II Increment ($\mu g/m_3$)	Maximum Class I Concentration ($\mu g/m_3$)	Allowable Class I Increment ($\mu g/m_3$)
NO_2	Annual	1.55	25	0.0027	2.5

18. The project will have no significant impact on ambient air quality.

19. The project will not have a noticeable effect on industrial, commercial, or residential growth in the Blaine area.

20. Visibility, deposition, and other air quality related values are not expected to be significantly impaired at the Alpine Lakes Wilderness, Glacier Peak Wilderness, North Cascades National Park, Olympic National Park, Pasayten Wilderness Class I Areas, or the Mt. Baker Wilderness Class II Area.

21. Ecology finds that all requirements for PSD have been satisfied and will comply with all applicable federal NSPS. Approval of the PSD application is granted subject to the following conditions.

APPROVAL CONDITIONS:

1. The IHT process heater and replacement boiler #2 shall be fueled by either pipeline natural gas or refinery fuel gas. Continuous compliance shall be monitored by maintaining a written log of the type of fuel burned in the IHT process heater and replacement boiler #2.

2. Emissions of NO_X from the IHT process heater shall not exceed 0.10 lb/MMBtu/hr at 7 percent oxygen (O_2) when averaged over 24 hours or 0.455 pounds per hour when averaged over 24 hours.

   2.1. Compliance shall be determined by 40 CFR 60 Appendix A, Method 7E.
   2.2. Within 60 days of achieving maximum production rate, but no later than 180 days, the IHT process heater shall be performance tested in accordance with 40 CFR 60.8 and Approval Condition 2.1 above. During this test, the unit shall be operated at a minimum of 90 percent of maximum load.
   2.3. Continuous compliance shall be monitored by annual source testing in accordance with 40 CFR 60 Appendix A, Method 7E. During this test, the unit shall be operated at a minimum of 90 percent of maximum load.

3. Emissions of NO_X from replacement boiler #2 shall not exceed 11 parts per million dry volume (ppmvd) at 7 percent oxygen (O_2) when averaged over 24 hours, or 0.018 lb/MMBtu/hr when averaged over 24 hours.

    3.1. Compliance shall be determined by 40 CFR 60 Appendix A, Method 7E.
    3.2. Within 60 days of achieving maximum production rate, but no later than 180 days from initial startup, replacement boiler #2 shall be performance tested in accordance with 40 CFR 60.8 and Approval Condition 3.1 above. During this test, the unit shall be operated at a minimum of 90 percent of maximum load.
    3.3. Continuous compliance shall be monitored by a Continuous Emission Monitor (CEM) for NO_X and O_2. The CEM's must meet Performance Specifications 2 and 3 of 40 CFR 60, Appendix B, and quality control/quality assurance requirements of 40 CFR 60, Appendix F.

4. Emissions of CO from the IHT process header shall not exceed 70 ppmvd at 7 percent 0_2 when averaged over 24 hours, or 1.1 pounds per hour when averaged over 24 hours.

    4.1. Compliance shall be determined by annual source testing in accordance with 40 CFR 60 Appendix A, Method 10, 10A, 10B, or an equivalent method approved in advance by Ecology.
    4.2. Within 60 days of achieving maximum production rate, but no later than 180 days from initial startup, the IHT process heater shall be performance tested in accordance with 40 CFR 60.8 and Approval Condition 4.1 above. During this test, the unit shall be operated at a minimum of 90 percent of maximum load.
    4.3. Continuous compliance shall be monitored by annual source testing for CO in accordance with 40 CFR 60 Appendix A, Method 10, 10A, or 10B. During this test, the unit shall be operated at a minimum of 90 percent of maximum load.

5. Emissions of CO from replacement boiler #2 shall not exceed 70 ppmvd at 7 percent 0_2 when averaged over 24 hours, or 18.1 pounds per hour averaged over 24 hours.

    5.1. Compliance shall be determined by annual source testing in accordance with 40 CFR 60 Appendix A, Method 10, 10A, 10B, or an equivalent method approved in advance by Ecology.
    5.2. Within 60 days of achieving maximum production rate, but no later than 180 days from initial startup, replacement boiler #2 shall be performance tested in accordance with 40 CFR 60.8 and Approval Condition 5.1 above. During this test, the unit shall be operated at a minimum of 90 percent of maximum load.
    5.3. Continuous compliance shall be monitored by a CEM for CO and O_2. The CEM's must meet Performance Specifications 3, 4, 4a, and 4b of 40 CFR 60, Appendix B and quality control/quality assurance requirements of 40 CFR 60, Appendix F.

6. BP shall report the following monitoring data to NWAPA and Ecology:

   6.1. Submit copies of each required source test performed on emission units regulated by this order.
      6.1.1. BP shall submit a test plan to Ecology and NWAPA at least thirty days in advance of any test date required under this Order.
      6.1.2. BP shall notify Ecology and NWAPA at least two weeks in advance of the exact test date.
   6.2. Submit a report monthly, within 20 days of the end of the calendar month, or on another schedule agreed to by Ecology and NWAPA. At the least, the report shall include the following:
      6.2.1. Calendar date or monitoring period.
      6.2.2. NO_X emissions for each regulated unit for the reporting month in accordance with Approval Conditions 2, and 3.
      6.2.3. CO emissions for each regulated unit for the reporting month in accordance with Approval Conditions 4 and 5.
   6.3. In addition, required report shall include:
      6.3.1. Days and duration for which data was not collected.
      6.3.2. Reasons for which data was not collected.
      6.3.3. A statement that BP burned no new fuels, no fuels from a new supplier, or no new fuel mixture.
   6.4. BP shall maintain monitoring records on site for at least five years, and shall submit:
      6.4.1. Excess emission reports to NWAPA, as discussed in Approval Condition 6.5, and
      6.4.2. Results of any compliance source tests.
   6.5. For each occurrence of monitored emissions in excess of any condition, the monthly emissions report shall include the following:
      6.5.1. The time of the occurrence.
      6.5.2. Magnitude of the emission or process parameters excess.
      6.5.3. The duration of the excess.
      6.5.4. The probable cause.
      6.5.5. Corrective actions taken or planned.
      6.5.6. The name of any other agency contacted.
   6.6. Once this permit has been incorporated in to BP's Title V permit, it will no longer be necessary to submit reports required in Approval Condition 6 to Ecology.

7. Sampling ports and platform shall be provided on each stack, after any final pollution control device. The ports shall meet the requirements of 40 CFR 60 Appendix A, Method 1. Adequate permanent and safe access to the test ports shall be provided.

8. BP shall notify Ecology and NWAPA in writing at least thirty days prior to startup of IHT process heater and replacement boiler #2 at least 30 days prior to the initial startup.

9. Within 90 days of startup, BP shall identify operational parameters and practices that will constitute "good combustion practices" of the IHT process heater and replacement boiler #2. These operational parameters and practices shall be included in an O&M manual for the

facility. The O&M manual shall be maintained and followed by BP and shall be available for review by Ecology, NWAPA, or EPA. Emissions that result from a failure to follow the requirements of the O&M manual may be considered credible evidence that emission violations have occurred.

10. Access to the source by Ecology, NWAPA, or the EPA, shall be permitted upon request for the purposes of compliance assurance inspections. Failure to allow such access is grounds for an enforcement action under the federal Clean Air Act or the Washington State Clean Air Act.

11. This approval shall become invalid if construction of the project is not commenced within eighteen (18) months after receipt of the final approval or if construction of the facility is discontinued for a period of eighteen (18) months, unless Ecology extends the 18-month period, pursuant to 40 CFR 52.21(r)(2) and applicable EPA guidance.

Reviewed by:

_____ DATE:_____

Richard B. Hibbard, P.E.
Technical, Information, & Engineering Services
Washington State Department of Ecology

Approved by:

_____ DATE:_____

Mary E. Burg
Program Manager
Washington State Department of Ecology